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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,539	11/09/2001	Masatoshi Katayama	215904US2	5770

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ALEXANDRIA, VA 22314

EXAMINER
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SINGH, DALZID E

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/986,539	KATAYAMA, MASATOSHI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dalzid Singh	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09 Nov. 2001</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "...a second WDM means for applying a plurality of upward optical signals transmitted by said plurality of upward signal transmitting means to said second transmission means, and for applying the optical signal from said information transmitting means transmitted thereto by said second transmission means to said information receiving means... as recited in claim 1, lines 25-30" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, in lines 25-30, recites "a second WDM means for applying a plurality of upward optical signals transmitted by said plurality of upward signal transmitting means to said second transmission means, and for applying the optical signal from said information transmitting means transmitted thereto by said second transmission means to said information receiving means" However, the specification and the drawings, as originally filled, do not show how the second WDM means is arranged for applying plurality of upward optical signals transmitted by the plurality of upward signal transmitting means. As shown in the figures, the second WDM is arranged for applying one upward optical signal transmitted by the upward signal transmitting means. There is no structure of circuit diagram provided to teach a person of ordinary skill how the second WDM is arranged for applying plurality of upward optical signals transmitted by

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the plurality of upward signal transmitting means. Therefore, based on this, the specification fails to provide an enabling disclosure for claim 1.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-4 and 9-16 are rejected under 35 U.S.C. 102(a) as being anticipated by prior art admitted by applicant shown in Fig. 10.

Regarding claim 1 (as far as understood), as shown in Fig. 10, the prior art show a signal transmission system comprising:

a first transmission means (19) for distributing and transmitting a downward optical signal transmitted by a downward signal transmitting means (11 and 15) to a plurality of downward signal receiving means (22 and 23);

a second transmission means (18) for multiplexing a plurality of upward optical signals (the upward optical signals are transmitted by equipments (21) located on plurality of customer premises (2)) applied thereto and transmitting the plurality of upward optical signals multiplexed, and for distributing and transmitting a downward signal applied thereto;

an information transmitting means (14) for transmitting an optical signal that carries specific information;

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a first WDM means (16) for applying the plurality of upward optical signals multiplexed and transmitted thereto by said second transmission means (18) to an upward signal receiving means (12), and for applying the optical signal transmitted by said information transmitting means (14), as a downward optical signal, to said second transmission means (18);

a plurality of upward signal transmitting means each for transmitting an upward signal (the upward optical signals are transmitted by equipments (21) located on plurality of customer premises (2));

an information receiving means for receiving an optical signal that carries specific information (24); and

a second WDM means (20) for applying an upward optical signals transmitted by said upward signal transmitting means (21) to said second transmission means (18), and for applying the optical signal from said information transmitting means (14) transmitted thereto by said second transmission means (18) to said information receiving means (24).

Regarding claim 9, in Fig. 10, the prior art shows a signal transmission system, comprising:

a first transmission means (19) for distributing and transmitting a downward optical signal transmitted by a downward signal transmitting means to a plurality of downward signal receiving means (22 and 23);

a second transmission means (18) for multiplexing a plurality of upward optical signals transmitted by a plurality of upward signal transmitting means (the upward

optical signals are transmitted by equipments (21) located on plurality of customer premises (2)) and transmitting the plurality of upward optical signals multiplexed, and for distributing and transmitting a downward optical signal (the downward optical signal is from equipment (11)) applied thereto;

an information transmitting means (14) for transmitting an optical signal that carries specific information;

a WDM means (16) for applying the plurality of multiplexed upward optical signals transmitted by said second transmission means (18) to an upward signal receiving means (12), and for applying the optical signal transmitted by said information transmitting means (14), as a downward optical signal, to said second transmission means (18); and

an information receiving means (24) for receiving an optical signal that carries specific information, said second transmission means (18) transmitting the optical signal from said WDM means (16) to said information receiving means (24).

Regarding claims 2, 10 and 14, as shown in Fig. 10, the prior art shows that information transmitting means (14) is a video signal transmitting means for transmitting the optical signal based on a video signal.

Regarding claims 3, 11 and 15, as shown in Fig. 10, the prior art shows that information transmitting means is a data signal transmitting means for transmitting the optical signal based on a data signal (it is inherent that the video signal contain data).

Regarding claims 4, 12 and 16, as shown in Fig. 10, the prior art shows that the optical signal transmitted by said information transmitting means has a wavelength

longer than those of the plurality of optical signals transmitted by said plurality of upward signal transmitting means (the optical signal transmitted by the information transmitting means (14) has a wavelength of (1550nm-1560nm) and the optical signals transmitted by the plurality of upward signal transmitting means (21) has a wavelength of 1480nm-1500nm; therefore, the optical signal transmitted by the information transmitting means has a wavelength longer than those of the plurality of optical signals transmitted by the plurality of upward signal transmitting means).

Regarding claim 13, as shown in Fig. 10, the prior art shows a signal transmission system, comprising:

- a downward signal transmitting means (11) for transmitting a downward optical signal;

- a first transmission means (19) for distributing and transmitting a downward optical signal applied thereto;

- a second transmission means (18) for multiplexing a plurality of upward optical signals transmitted by a plurality of upward signal transmitting means (the upward optical signals are transmitted by equipments (21) located on plurality of customer premises (2)) and for transmitting the plurality of upward optical signals multiplexed;

- an information transmitting means (14) for transmitting an optical signal that carries information;

- a WDM means (16) for applying the downward optical signal transmitted by said downward signal transmitting means (11) and the optical signal transmitted by said



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information transmitting means (14) to said first transmission means (19); and applied thereto from said WDM means (16) to said information receiving means (24).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 5-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al (US Pubs. No. 2001/0048799).

Regarding claim 5, King et al disclose a signal transmission system, as shown in Fig. 12, comprising:

a downward signal transmitting means (117a,117b,117c...) for transmitting a downward optical signal ( $\lambda'_1$ - $\lambda'_{13}$ );

a first transmission means (122) for distributing and transmitting a downward optical signal ( $\lambda'_1$ - $\lambda'_{13}$ ) applied thereto;

a second transmission means (100) for multiplexing a plurality of upward optical signals ( $\lambda_1$ - $\lambda_{13}$ ) transmitted by a plurality of upward signal transmitting means (104a, 104b, 104c...) and for transmitting the plurality of upward optical signals multiplexed;

an information transmitting means for transmitting an optical signal that carries information (117m');

a first WDM means (121) for applying the downward optical signal transmitted by said downward signal transmitting means (117a,117b,117c...) and the optical signal transmitted by said information transmitting means (117m') to said first transmission means (122);

an information receiving means (124m') for receiving an optical signal that carries information; and

a second WDM means (132) for applying the downward optical signal ( $\lambda'_4 - \lambda'_{13}$ ) distributed and transmitted thereto by said first transmission means (122) to a plurality of downward signal receiving means (124d', 124e'...), and for applying the optical signal from said information transmitting means (117m') transmitted thereto by said first transmission means (122) to said information receiving means (124m').

King et al disclose plurality of transmitting means wherein the transmitting means transmitted information signal such as data signal and differ from the claimed invention in that King et al do not specifically disclose that the information transmitting means transmit a specific information. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide specific transmitting mean to transmit a specific information signal. One of ordinary skill in the art would have been motivated to do such in order to assign a specific transmitting means to carry information such as supervisory, maintenance or service.

Regarding claim 13, King et al disclose a signal transmission system, as shown in Fig. 12, comprising:

a downward signal transmitting means (117a, 117b, 117c...) for transmitting a downward optical signal ( $\lambda'_1$ - $\lambda'_{13}$ );

a first transmission means (122) for distributing and transmitting a downward optical signal ( $\lambda'_1$ - $\lambda'_{13}$ ) applied thereto;

a second transmission means (100) for multiplexing a plurality of upward optical signals ( $\lambda_1$ - $\lambda_{13}$ ) transmitted by a plurality of upward signal transmitting means (104a, 104b, 104c...) and for transmitting the plurality of upward optical signals multiplexed;

an information transmitting means for transmitting an optical signal that carries information (117m');

a WDM means (121) for applying the downward optical signal transmitted by said downward signal transmitting means (117a, 117b, 117c...) and the optical signal transmitted by said information transmitting means (117m') to said first transmission means (122); and applied thereto from said WDM means to said information receiving means (124m').

King et al disclose plurality of transmitting means wherein the transmitting means transmitted information signal such as data signal and differ from the claimed invention in that King et al do not specifically disclose that the information transmitting means transmit a specific information. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide specific transmitting mean to transmit a specific information signal. One of ordinary skill in the art would have been motivated to do such in order to assign a specific transmitting means to carry information such as supervisory, maintenance or service.

Regarding claims 7 and 15, as discussed above, King et al disclose plurality of transmission system, therefore it would have been obvious that the transmission means transmit the optical signal based on a data signal.

Regarding claims 8 and 16, as shown in Fig. 12, King et al show plurality of transmitters for transmitting plurality of wavelengths and on paragraph [0029] King et al disclose the transmission of different wavelengths and differ from the claimed invention in that King et al do not specifically disclose that the optical signal transmitted by said information transmitting means has a wavelength longer than those of the plurality of optical signals transmitted by said plurality of upward signal transmitting means.

However, it would have been obvious to an artisan of ordinary skill at the time the invention was made to provide the information transmitting means with one of the longer wavelength such as 1.5um in place of 1.3um. Since the optical signals from different transmitting means are multiplexed, one of ordinary skill in the art would have been motivated to provide the information transmitting means with different wavelength signal in order to reduce or eliminate crosstalk between the optical signals.

8. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al (US Pubs. No. 2001/0048799) in view of the admitted prior art as shown in Fig. 10.

Regarding claims 6 and 14, King et al disclose transmission of information signal as discussed above and differ from the claimed invention in that King et al do not specifically disclose that information signal is a video signal transmitting means for

transmitting the optical signal based on a video signal. However, transmitting such signal is well known. In Fig. 10, the prior art shows transmission of video signal. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide the information transmitting means of King et al with a video transmitting means as taught by the prior art. One of ordinary skill in the art would have been motivated to do such in order to provide multimedia services to customer.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wagner (US Patent No. 5,221,983) is cited to show passive photonic loop architecture.

Touma (US Patent No. 6,108,112) is cited to show passive optical network.

Kim et al (US Patent No. 6,445,472) is cited to show optical fiber subscriber network.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272--3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DS  
March 16, 2005

  
M. R. SEDIGHIAN  
PRIMARY EXAMINER